

CLAIMS

- 1 A method of producing, from a workpiece, a finished disc component for a gas turbine engine, the workpiece having a hub portion and a disc portion extending radially outwardly from the hub portion, the method including:

forming a support surface on the hub portion;

supporting the workpiece in a machine tool by means of the support surface in a manner which provides tool access to both axial faces of the disc portion; and

performing a sequence of machining operations alternately on opposite sides of the disc portion while maintaining the support of the workpiece by means of the support surface.
- 2 A method as claimed in claim 1, wherein the finished disc component is produced from a forged workpiece.
- 3 A method as claimed in claim 1 or claim 2, in which the support surface is cylindrical and aligned with a longitudinal axis of the workpiece.
- 4 A method as claimed in any preceding claim , in which the support surface is an internal surface of the hub portion.
- 5 A method as claimed in claim 1, claim 2 or claim 3, in which the support surface is an external surface of the hub portion.
- 6 A method as claimed in any one of the preceding claims, in which the workpiece is supported by a fixture which engages the support surface and is non-rotatably secured to the workpiece.

- 7 A method as claimed in claim 6, in which, in addition to the fixture, a tailstock engages the workpiece at a position spaced from the fixture.
- 8 A method as claimed in any one of the preceding claims, in which the outer periphery of the disc portion is unconstrained during at least some of the machining operations.
- 9 A method as claimed in any one of the preceding claims, in which at least one of the machining operations is delayed after completion of the immediately preceding machining operation, until distortion resulting from the immediately preceding machining operation has taken effect.
- 10 A method as claimed in any one of the preceding claims, in which finish machining operations on the disc portion take place after all rough and semifinish machining operations on both faces of the disc portion have been completed.
- 11 A method as claimed in any one of the preceding claims, in which regions of the workpiece in which there is high residual stress are removed in machining operations occurring early in the sequence of machining operations.
- 12 A method of producing, from a workpiece, a finished disc component for a gas turbine engine, the method being in accordance with claim 1 and substantially as described herein.
- 13 A disc component produced by a method in accordance with any one of the preceding claims.
- 14 A disc assembly including a disc component in accordance with claim 13.